

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9553WO/JS/LA		FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2004/000878	International filing date (day/month/year) 04.06.2004	Priority date (day/month/year) 16.06.2003	
International Patent Classification (IPC) or national classification and IPC H02J 17/00, B25J 19/00			
Applicant ABB AB et al			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 12.01.2005		Date of completion of this report 01.09.2005	
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88 Form PCT/IPEA/409 (cover sheet) (April 2005)		Authorized officer Gordana Ninkovic /OGU Telephone No. +46 8 782 25 00	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/000878

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/000878

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-13</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	_____	YES
	Claims	<u>1-13</u>	NO
Industrial applicability (IA)	Claims	<u>1-13</u>	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

A US 2002118004 A1 (G.SCHEIBLE ET AL), 29 August 2002

B WO 8910030 A1 (UNISCAN LTD.), 19 Oktober 1989

C EP 0558316 A1 (G2 DESIGN LTD.), 1 September 1993

D US 5831348 A (Y.NISHIZAWA), 3 November 1998

E Atsuo Kawamura et al "Wireless transmission of power and information through one high-frequency resonant AC Link inverter for robot manipulator applications", IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, Vol.32, NO.3, May/June 1996

The most relevant documents are A and B. Documents C-E represent the state of the art.

Document A discloses a system for wireless supplying a large number of actuators of a machine with electrical power, for use in e.g. robot technology. A transmission part comprises a primary winding (1) and an oscillator (4) for producing a first alternating magnetic field. A receiving part comprises a secondary winding (2.1) and an AC/DC controller (7) for providing a current to the actuator via an energy storage device (8). Each of the transmission part and the receiving part can be connected via a compensation capacitor for obtaining resonance. (See part 0063-0064).

Document B discloses a system for i.a. wireless supplying a number of actuators with electrical power comprising a transponder, which can be built into an integrated circuit. A resonant frequency and oscillation phase of a coil can be controlled and adjusted.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

The impedance of the actuator's load must be matched to the actuator's tuned coil (21) impedance and this adjusting is obtained by either using a transformer between the load and tuned coil, by taking tapings off the tuned coil at the chosen points, or by taking tapings off the tuning capacitance. In that way both the transmission part and the receiving part are adjustable. (See page 12, line 5-27).

What is defined in claims 1 and 8 differs from what is disclosed in document A, which is considered to represent the closest prior art, in that the transmission part comprises a tunable resonance circuit. However, to adjust the resonance in the transmission part is already disclosed in document B. Since cited documents relate to the same technical field, the person skilled in the art would use directions from document B to modify the invention according to document A and thus arrive to the invention according to claims 1 and 8. What is defined in claim 1 and 8 differs further from known technique in that the transmission part is attached to the robot. However, this difference is not considered to require any inventive work by a person skilled in the art and brings only expected advantages to the method and the system according to the invention and no unexpected technical effect. Therefore, the subject matter of these claims is considered as obvious application of known art.

Thus what is claimed in claims 1 and 8 is not considered to involve an inventive step.

Even what is defined in claims 10,11 and 13 is not considered to involve an inventive step according to above written arguments.

In remaining claims slight constructional variations are suggested that are obvious to a person skilled in the art, especially as the advantages thus achieved can be readily contemplated in advance. Consequently, the subject matter of these claims is not considered to involve an inventive step.

The invention is considered to be industrially applicable.